

R packages

Questions to ask

It is important to find out whether a package would be useful. Not all code would fit in a package, but here are a few questions to help you out:

- Are you scripting or coding? Scripting => no package building; coding => YES
- Do you have a lot of duplications in your code? (be LAZY) likely there is something to modularize into a package
- Would modularizing code (one function, one purpose) help isolate issues (e.g., errors)?
- Are you afraid you write ugly code? LOL everyone is (here is some really ugly code from when I started and is being used quite often)

Before you get started

- Make sure you have the developer version of R
- Make sure you have Rtools installed
- Think of a package name that's not taken (check the index on CRAN).
- Realize that if you want to submit to CRAN, you're going to have to take into account this policy
- make sure you have the latest versions of these packages:
- devtools
- usethis
- rcmdcheck
- Book 1: R package development (click it)
- Book 2: Advanced R package development (click it)

Basic workflow

1. Initialize
2. Build
3. Document
4. test (optional but recommended)
5. Check (iterate back to 2)
6. Submit

```
# Initialize
usethis::create_package('.')
system('subl DESCRIPTION')
usethis::use_mit_license(name = 'Someone')
usethis::use_git()
```

```

usethis:: # go through some of the things
usethis::use_package('ggplot2')

# Build & Document
#' Sample function
#'
#' @param x Numeric value
#'
#' @return Argument plus one
bar <- function (x) {
  return(x + 1)
}

# show some cool sublime things

# check
devtools::document()
rcmdcheck::rcmdcheck()

# write test
testthat::test_that('bar works', {
  expect_equal(bar(1), 2)
  expect_equal(bar(1), 2)
})

# advanced checking
devtools::check_win_devel()

# submitting
devtools::release_checks()
devtools::submit_cran()

```

Tips

- Be consistent in coding style (we can disagree on what, but important to be consistent)
- Think more than you code => good design saves you a bunch of time and mess
- get a good text editor (Rstudio is meh; Sublime Text is :)))
- There's a lot to learn, learn by doing not by reading
- CRAN will reject your package a few times, so don't wait too long to submit it (more code => higher probability you're doing something wrong). Expect to iterate with them